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SHELL OIL COMPANY P O BOX 2463 HOUSTON, TX 772522463				
EXAMINER				
MCCAIG, BRIAN A				
ART UNIT		PAPER NUMBER		
1797				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/583,790

**Applicant(s)**

ADAMS ET AL.

**Examiner**

BRIAN MCCAIG

**Art Unit**

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SG/US)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Summary*

1. This is the final Office action based on the 10/583790 application filed June 21, 2006, and amended December 19, 2008.
2. Claims 1-24 are pending and have been fully considered.

### *Response to Amendment*

#### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 1 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by BOUCHER ET AL (EP 0471524 A1), hereafter referred to as BOUCHER.**
5. With regard to Claims 1 and 13, BOUCHER discloses [page 3, lines 15-18; page 7, lines 1-12; & figure 1] a method for the hydroisomerization of a Fischer-Tropsch (F-T) wax, which is analogous to (a) of the instant application; followed by fractionation of the isomerate product into various fractions, of which the heavy fraction is hydrotreated and recycled to the hydroisomerization unit, which is analogous to (b) and (c) of the instant application; and solvent dewaxing, in which unconverted wax is recycled to either the hydrotreater or the hydroisomerization process, which is analogous to (d) of the instant application.
6. With regard to Claim 13, although BOUCHER does not disclose a viscosity modifier additive, since the body of the claim fully and intrinsically sets forth all of the limitations of the claimed invention, and the preamble merely states the purpose or intended use of the invention rather than any distinct definition of any of the claimed invention's

limitations, the preamble is not considered a limitation and is of no significance to claim construction. *Pitney Bowes, Inc. v. Hewlett Packard Co.*, 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165 (Fed. Cir. 1999).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claims 2-4, 9-10, 12, 14-16, 21-22, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over BOUCHER ET AL (EP 0471524 A1) in view of MILLER (US 6699385 B2) and SEQUEIRA in *Lubricant Base Oil and Wax Processing*, hereafter referred to as BOUCHER, MILLER, and SEQUEIRA, respectively.**

9. With regard to Claims 2-4 and 14-16, BOUCHER does not appear to explicitly disclose that the distillation residue has a 10 wt% recovery boiling point of above 500° C and a wax content of greater than 50 wt%, wherein the wax content is reduced to less than 50 wt% after contacting the feed with a hydroisomerization catalyst.

10. However, MILLER discloses [column 2, line 5-column 3, line 5] processes for producing lubricating base oils with low haze from a heavy Fischer-Tropsch (F-T) wax comprising providing a heavy F-T wax, separating the F-T into a light fraction (or a fuel product) and a heavy fraction (or distillation residue) by distillation, separating the heavy fraction into subsequent light (i.e., fuel products) and heavy fractions, and hydroisomerizing one of the subsequent light fractions with a catalyst under hydroisomerization conditions, wherein the waxy feed stream that is hydroisomerized has an initial boiling point preferably greater than 950° F (510° C), which is the zero percent weight recovery boiling point, and a paraffin content of at least 80 percent by weight [column 4, lines 25-35], both of which overlap the ranges required in the instant application. Furthermore, MILLER discloses [Table I] that the 700° F+ bottoms of the hydroisomerization are 45.6 percent of the feed and 34.4 percent of the wax, both of which are less than the 50 wt% required in the instant application, wherein the examiner is assuming that the 700° F+ bottoms of the

hydroisomerization include the waxy constituents of the product since paraffin waxes are derived from distillates with end points greater than 1000° F as evidenced by SEQUEIRA [page 37]. Similarly, BOUCHER discloses [Table 1, page 9] that the wt % of the hydroisomerized product is 19.1 wt%, which is within the ranges of Claims 3 and 4 of the instant application. At the time of the invention, it would have been obvious to one of ordinary skill in the art to use the F-T feed of MILLER in the process of BOUCHER since the reaction conditions and catalysts used in each of the references are the same or overlap [see, e.g., BOUCHER page 4, lines 5-15 & MILLER column 7, lines 23-45]. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

11. With regard to Claims 9-10 and 21-22, since the reaction conditions, catalysts, and feed are the same and/or overlap [see, e.g., specification, page 3, line 29-page 5, line 18 & page 7, lines 9-10 and BOUCHER, page 4, lines 8-15], it is at least obvious that the products of the hydroisomerization will have the same properties as those required in the instant application. For example, BOUCHER teaches that hydroisomerization may be performed over any standard hydroisomerization catalyst which contains a hydrogenation metal selected from Group VIB or VIIB metals of which the preferred platinum catalyst in the instant application is an obvious variant. Similarly, BOUCHER teaches that the boiling range of the F-T product is 330-600° C, which overlaps the boiling range that is indicated in the instant application [page 3, line 9].

12. With regard to Claims 12 and 24, reference is made to the discussions of BOUCHER in paragraphs 5 and 6 and the discussion of BOUCHER and MILLER in paragraphs 9 and 10. In addition, MILLER discloses [column 6, lines 22-36] a catalyst comprised of platinum (a Group VIIB metal) and a molecular sieve.

13. **Claims 5-7, 11, 17-19, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over BOUCHER ET AL (EP 0471524 A1) in view of HOEK ET AL (WO 02/070628 A2), hereafter referred to as BOUCHER and HOEK, respectively.**

14. With regard to Claims 5-7 and 17-19, BOUCHER does not appear to explicitly disclose that the F-T synthesis product has a weight ratio of compounds having at least 60 or more carbon atoms and compounds having

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at least 30 or more carbon atoms is at least 0.2 and that at least 30 wt% of the compounds in the F-T synthesis product have at least 30 carbon atoms. However, HOEK discloses [see, e.g., the abstract & page 9, lines 9-18] hydroisomerizing a F-T stream in which the weight ratio  $C_{60+}/C_{30+}$  is at least 0.2 and preferably 0.35 or 0.4 or 0.55 and at least 35 wt% of the feed is comprised of compounds having 30 or more carbons with preference for 50 or 55 wt%. At the time of the invention, it would have been obvious to one of ordinary skill in the art to use the F-T feed of HOEK in the process of BOUCHER since the reaction conditions and catalysts used in each of the references are the same or overlap [see, e.g., BOUCHER page 4, lines 5-15 & HOEK page 10, line 25-page 12, line 3 & page 12, lines 19-29] and, moreover, BOUCHER discloses that hydroisomerization may be performed over any standard hydroisomerization catalyst which contain a hydrogenation metal selected from Group VIB or VIIB metals, of which the catalyst of HOEK is an obvious variant. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

15. With regard to Claims 11 and 23, reference is made to the discussions of BOUCHER in paragraphs 5 and 6 and BOUCHER and HOEK in the preceding paragraph. In addition, HOEK discloses [page 10, line 25-page 12] a catalyst comprised of a Group VIIB metal and an amorphous silica/alumina carrier.

### ***Claim Rejections - 35 USC § 102/35 USC § 103***

16. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

17. A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**19. Claims 8 and 20 is rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over BOUCHER ET AL (EP 0471524 A1).**

20. Reference is made to the discussion of BOUCHER in paragraphs 5 and 6. The applicant is reminded that where the applicant claims a composition in terms of a function, property, or characteristic and the composition of the prior art is the same as that of the claim but the function is not explicitly disclosed by the reference, the examiner may make a rejection under both 35 U.S.C. 102 and 103, expressed as a 102/103 rejection. "There is nothing inconsistent in concurrent rejections for obviousness under 35 U.S.C. 103 and for anticipation under 35 U.S.C. 102." *In re Best*, 562 F.2d 1252, 1255 n.4, 195 USPQ 430, 433 n.4 (CCPA 1977). This same rationale should also apply to product, apparatus, and process claims claimed in terms of function, property or characteristic. Therefore, a 35 U.S.C. 102/103 rejection is appropriate for these types of claims as well as for composition claims (MPEP 2112). In this case, Claims 8 and 20 require a method in terms of the properties of an intermediate product. Since the process of the BOUCHER anticipates the instant application as claimed, it is obvious that the property of the intermediate product is the same although it is not explicitly disclosed in the instant application.

#### ***Response to Arguments***

21. The applicant argues that since the process disclosed by BOUCHER is allegedly quite different from the process of the instant application, especially regarding the cut from the distillation that is dewaxed to form the base oil, that the independent claims are not anticipated by the aforementioned reference.

22. The applicant's arguments are not persuasive because the cuts being dewaxed by BOUCHER are not unlike those of the instant application. The applicant has disclosed that the 10 wt% recovery boiling point of the residue that is to be reduced in wax content by a hydroisomerization catalyst is as much as 550° C [page 6, lines 7-9 of the instant application], while BOUCHER discloses that the boiling point of the fraction sent to further

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hydroisomerization is from 580-600° C [page 6, lines 25-27 & page 7, lines 12-20]. Therefore, the boiling points of the cuts of the corresponding streams of Boucher are indeed similar and would apparently overlap Applicants boiling range. Furthermore, the applicant discloses that the fraction from the distillation boiling above 485° C is solvent dewaxed [page 15, lines 4-5 of the instant application]. BOUCHER discloses that effluent from the hydroisomerized residue that is solvent dewaxed is from 330-600° C [page 7, lines 12-20], which also overlaps the instant application further illustrating the congruence between the reference and the application.

### ***Conclusion***

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIAN MCCAIG whose telephone number is (571) 270-5548. The examiner can normally be reached on M-F 8-430.

24. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

25. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BAM  
3/13/2009

/Glenn A Caldarola/  
Acting SPE of Art Unit 1797